15(0)   SOV/2o-122-2-16/42

AUTHORS: Oding, I. A.,   Corresponding Member, Academy of Sciences, USSR,
               Geminov, V. N.

TITLE: A New Law of Lasting Resistance (Novaya zakonomernost' dlitel'-
               noy prochnosti)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 2, pp 222-225
               (USSR)

ABSTRACT: Some previous papers (Refs 1 - 6) proved that the lasting
               resistance cannot be described by an exponential law, and
               they suggested the exponential law $t = A'e^{-\alpha'\sigma}$.

               Some of these papers (Refs 3 - 6) pointed out that the validi-
               ty of the exponential law is only an approximate one, and
               that it may be applied only for $\alpha'\sigma > 1.6$. In 2 papers (Refs 5,
               6) the equation $t = A/sh\ \alpha\sigma.sh\ \beta\sigma$ was deduced; t denotes the
               duration of the strain, σ - the tension; α', α, β', β, A', B,
               A - coefficients. If a metal is used under tension, vacancies
               produced by moving dislocations are accumulated, and they
               subsequently coagulate to micropores and microcracks, which
Card 1/3   finally cause the rupture of the metal. But according to

a more exact experimental and theoretical analysis of the experimental data, the equation $t = A/\text{sh}\delta\sigma.\text{sh}\beta\sigma$ gives too low values of the life time of the metal. This equation describes only the accumulation of the vacancies . The most favorable spaces for the gathering of vacancy colonies are those metal volumes which are placed on the surface of the samples. The boundaries of the grains and of the blocks, the slide planes, the boundaries of the twins, and also the surfaces of the micro-pores and of the microcracks belong to these surfaces. The surfaces of the secondary phases (phases of aging (stareniye)), the gaseous occlusions, and the non-metallic inclusions have to be treated as separating surfaces. In all these places, the highest values and gradients of the tensions, and therefore an accumulation and a deposition of the vacancies must be expected. Simultaneously with the accumulation of the scattered vacancies and with the increase of the dimensions of their colonies, there is a decrease of their dimensions caused by the annihilation of the vacancies which collide with straying atoms. Because of these and other facts, the equation $t = A/\text{sh}\alpha\sigma.\text{sh}\beta\sigma$ must be replaced by the equation $t^m = A_1/\text{sh}\left[\alpha(\sigma-k/\sigma)\right].\text{sh}\beta\sigma$. However, this

Card 2/3   equation is too complicated for practical use. But it can be

A New Law of Lasting Resistance   SOV/20-122-2-16/42

essentially simplified by replacing the individual parts
of the corresponding curve by simpler expressions,(i.e. by
replacing the continuous curve by a curve composed of several
parts). The carrying out of this operation is discussed. The
analysis of 130 curves of lasting resistance (which were
collected from the literature) confirm the correctness of
the suggested expressions. The dependence of the lasting
resistance for durations of use (srok sluzhby) up to 100 000
hours in the coordinates σ - lg t may be represented either
by a single straight line or by 2 parts of straight lines
of different inclination. The basis of the alloy must be the
essential characteristic of this alloy. There are 4 figures
and 15 references, 5 of which are Soviet.

SUBMITTED: June 5, 1958

Card 3/3

GEMINOV, V. N. Cand Tech Sci -- (diss) "Search for means of reducing the length of durable-strength tests." Mos, 1959. 28 pp with graphs; 1 sheet of tables (Acad Sci USSR. Inst of Metallurgy im A. A. Baykov), 150 copies. Printed by duplicating machine (KL, 45-59, 146)

GEMINOV, V. N.

18(7)   PHASE I BOOK EXPLOITATION   SOV/3355

Akademiya nauk SSSR. Institut metallurgii. Nauchnyy sovet po problemam zharoprochnykh splavov

Issledovaniya po zharoprochnym splavam, t. IV (Studies on Heat-Resistant Alloys, vol. 4) Moscow, Izd-vo AN SSSR, 1959. 400 p. Errata slip inserted. 2,200 copies printed.

Ed. of Publishing House: V. A. Klimov; Tech. Ed.: A. P. Guseva; Editorial Board: I. P. Bardin, Academician, Academician G. V. Kurdyumov, Academician; N. V. Ageyev; Corresponding Member, USSR Academy of Sciences; I. A. Oding, I. R. Pavlov, and I. F. Zudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgists concerned with the structural metallurgy of alloys.

COVERAGE: This is a collection of specialized studies of various problems in the structural metallurgy of heat-resistant alloys. Some are concerned with theoretical principle, some with descriptions of new equipment and methods, others with properties of specific materials. Various phenomena occurring under specified conditions are studied and reported on. For details, see Table of Contents. The articles are accompanied by a number of references, both Soviet and non-Soviet.

Studies (Cont.)   SOV/3355

Zakharova, M. I., N. N. Ignatov, L. N. Semenova, and E. A. Dutkova. Investigation of Phase Transformations in Iron-Vanadium and Iron-Chromium Alloys   263

Zudin, I. F., and O. A. Bamyzh. Effect of Chromium, Molybdenum, and Tungsten on the Time and Temperature Dependence of the Hot Hardness of Ferrite   266

Manzyk, O. A., and I. F. Zudin. High Temperature Creep Strength of Complex Alloys of Ferrite with Chromium, Vanadium, Tungsten, and Molybdenum   273

Prigunova, M.-V. Some Problems in the Theory of Heat Resistance   2An

Oding, I. A., and V. N. Geminov. New Method of Extrapolating Long-Time Strength Properties from Short-time Endurance Test Data   287

Stepykovich, A. V. Investigation of Plasticity Properties

Card 9/12

GEMINOV V N.

18(7)   PHASE I   BOOK EXPLOITATION   SOV/2836

Oding, Ivan Avgustovich, Vera Semenovna Ivanova, Vladislav Vasil'-
    yevich Burdukskiy, and Vladimir Nikolayevich Geminov

Teoriya polzuchesti i dlitel'noy prochnosti metallov (Theory
    of Creep and Long-Time Strength of Metals) Moscow, Metallurgizdat,
    1959. 488 p. Errata slip inserted. 3,0C0 copies printed.

Sponsoring Agency: Akademiya nauk SSSR Nauchnoy i tekhnicheskoy
    informatsii. Otdel tekhnicheskoy informatsii.

Ed. (Title page): I.A. Oding, Corresponding Member, USSR Academy
    of Sciences; Ed. (Inside book): G.V. Popova; Ed. of Publishing
    House: Ye.N. Berlin; Tech. Ed.: Ye. B. Vaynshteyn.

PURPOSE: This book is intended for scientific and engineering
    workers in the field of heat-resistant metals and alloys. It may
    also be useful to students at higher metallurgical and machine-
    building institutions.

Card 1/7

Theory (Cont.)   SOV/2836

COVERAGE: The book contains recent information on the basic laws
and mechanism of creep, relaxation and durability of metals.
Special attention has been given to the processes which cause
creep and relaxation and also to those which result in break-
down of metals. The authors approach the problem of heat re-
sistance on the basis of the contemporary theory of imperfections
in real crystals. They describe all processes from the point of
view of the theory of displacement and vacant places in the
crystal space lattices. Academician G.V. Kurdyumov and Professor
II. Kornilov are mentioned as having developed other investigative
techniques in this field. Separate chapters of the book were
written by: Ch. I by I.A. Oding and V.N. Geminov; Ch. II by
I.A. Oding; Ch. III by I.A. Oding and V.S. Ivanova;. Ch. IV
by I.A. Oding and G.A. Tulyakov; Ch. V and Ch. VI by V.S.
Ivanova; Ch. VII, VIII, and IX by I. A. Oding and V.V.
Burdukskiy; Ch. X by V.N. Geminov. The authors thank Professor
I.I. Kornilov and N.V. Grnm-Grzhimaylo, Doctor of Chemical
Sciences. He also thanks laboratory workers: L.K. Gordiyenko,
Yu.P. Liberov, Z.G. Fridman, T.S. Mar'yanovskaya, and S.Ye.

Card 2/7

23(5)   SOV/26-59-2-34/53
AUTHOR: Geminov, V.N.

TITLE: Films of a Thickness of 0.02 Micron (Plenki tol-
             shchinoy 0,02 mikrona)

PERIODICAL: Priroda, 1959, Nr 2, pp 107-108 (USSR)

ABSTRACT: A summary of an article from the American magazine
             "Technical Engineering News" Nr 6, 1958.

ASSOCIATION: Institut metallurgii im. A.A. Baykova Adademii nauk
             SSSR. Moskva (Institute of Metallurgy imeni A.A.
             Baykov of the USSR Academy of Sciences – Moscow)

Card 1/1

AUTHOR: Geminov, V.N., Engineer

TITLE: On the Method of Determining the Strength Reserve Factor   (K vo-
                prosu o metode opredeleniya koeffitsiyenta zapasa prochnosti)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya
                1959, Nr 2, pp 153-156 (USSR)

ABSTRACT: The author discusses an article published by V.M. Grebenik on
                "Methods to Consider Various Factors in Computations of Strength"
                in this journal Nr 7, for 1958. Grebenik stresses the necessity
                to find additional strength reserves of materials by reducing
                the general factor of the strength reserve. He rejects the
                method of differential computation developed by I.A. Oding. The
                author of the present article states that the theory developed
                by Grebenik does not contain any new concrete data applicable
                in machine design   Therefore the differential computation method
                suggested by Oding remains the guiding principle in the designing
                practice.
Card 1/2   There are 2 Soviet references.

On the Method of Determining the Strength Reserve Factor

ASSOCIATION: Institut metallurgii AN SSSR   (Institute of Metallurgy of AS
              USSR)

SUBMITTED: January 6, 1959

Card 2/2

ih. 8200

67281.

SOV/180-59-4-12/48

AUTHORS: Geminov, V.N. and Oding, I.A.   (Moscow)

TITLE: On the Accuracy of Parametric Relations in Endurance
             Strength

ABSTRACT: The relation between the service life, the stress and the
             temperature is the parametric relation considered. Most
             test data are obtained at constant temperature (service
             life-stress relation) or at constant stress (service
             life-temperature relation). The full parametric relation
             can be checked only against these experimentally obtained
             partial relations. The stress relation (at constant
             temperature) has been shown by the present authors
             (Doklady AN SSSR, 1958, Vol 122, Nr 2) to yield in semi-
             logarithmic coordinates an S shaped curve. The first
             shallow range reaches from several minutes to several
             dozens of hours and its general laws are unknown. The
             second (steep) and third (shallow) regions can, in
             practice, be replaced by straight lines (plotting stress
             against the logarithm of service life). The change from
Card 1/3   the second to the third ranges and the ratio of the

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On the Accuracy of Parametric Relations in Endurance Strength

slopes obey certain laws. For an extrapolation to
service lives of 100000 hours the range between 100 and
1000 hours has been recommended as a starting base. The
stress plot for the same material has different slopes
at different temperatures. The lines have no common
intersection point. The widely used power law is untrue
and impractical. The relation of the logarithm of
service life against the temperature is linear.
Theoretically, the plot should be drawn against the
reciprocal of temperature. In practice, the relative
temperature interval is not large and the manner of
plotting unimportant. Seven general parametric relations
are considered. Of these, the most accurate are those
of Manson and Hafferd and of Zhurkov. Every three-
dimensional parametric relation hitherto adopted rests
on the assumption of the uniformity of the stress and
temperature relation throughout the range of investigation.
This assumption is untrue and large errors are caused in
extrapolation. The authors advise against the use of any

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On the Accuracy of Parametric Relations in Endurance Strength   SOV/180-59-4-12/48

parametric relation at present. There are 4 references, 2 of which are Soviet, 1 German and 1 English.

SUBMITTED: April 6, 1959

Card 3/3

ODING, I.A.; GEMINOV, V.N.

New method of extrapolating data from short-time tests for durable stength and long terms of service. Issl.po zharopr. splav. 4:287-297 '59.   (MIRA 13:5)
                    (Metals--Testing)

16(2),14

AUTHOR: Geminov, V. N.   SOV/32-25-1-34/51

TITLE: On the Statistic Evaluation of Experimental Data According
              to the Strength (O statisticheskcy obrabotke eksperimental'nykh
              dannykh po dlitel'noy prochnosti)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 1, pp 90-95   (USSR)

ABSTRACT: The three most important problems of the evaluation under
              review have not yet been investigated sufficiently. The
              questions refer to: 1. The plotting of the medium (most
              probable) functional straight line; 2. determination of the
              extension of the reliability range (doveritel'nyy interval)
              within the experimental part of durability curves (with regard
              to the influence of the number of experimental points);
              3. determination of the quantity of extension of the relia-
              bility range on extrapolation beyond the range of the ex-
              perimental part. These three problems are dealt with in the
              present paper with respect to certain prerequisites. The
              author arrived at the following conclusions: the extension of
              the reliability range is, according to date on a finite number
              of experimental points, larger than that of an "ideal" relia-
Card 1/2   bility range which is obtained in the case of an infinite

On the Statistic Evaluation of Experimental Data   SOV/32-25-1-34/51
·According to the Strength

        number of points. The extension of the reliability range
increases on extrapolation, decreases on increase of the
number of experimental points and decreases most strongly
down to a sample number of 15. The experimental points within
the range investigated can be distributed equally or in groups,
with a few points on each level. In the case of one sample,
for instance, it is possible to investigate the durability
on 12-15 levels of stress, whereas 5-6 levels can be in-
vestigated if there are 2-3 samples available. 91 samples
of EYa2 steel were destroyed to investigate the distribution
of durability deviations. There are 3 figures and 6 references,
3 of which are Soviet.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR
(Institute of Metallurgy imeni A. A. Baykov of the Academy
of Sciences, USSR)

Card 2/2

18(7)

AUTHOR: Geminov, V.N.

TITLE: Direct Observation of Dislocations in Metals

PERIODICAL: Priroda, 1959, Nr 5, pp 84 - 86 (USSR)

ABSTRACT: The author states that the strength of the cry-
            stalline material depends upon the presence, in
            its lattice, of areas with a distorted structure,
            called structural imperfections or dislocations.
            Their detection has an important practical as well
            as scientific value. For a long time the only
            detectable signs of their presence were surface
            spots. In 1956, an English scientist, Menter,
            succeeded in detecting such dislocation of cry-
            stals in metals (phthalocyanides of platinum and
            copper) by means of an electron microscope. The
            dislocations formed by molecules are about 10
Card 1/2   times the size of dislocations formed by atoms of
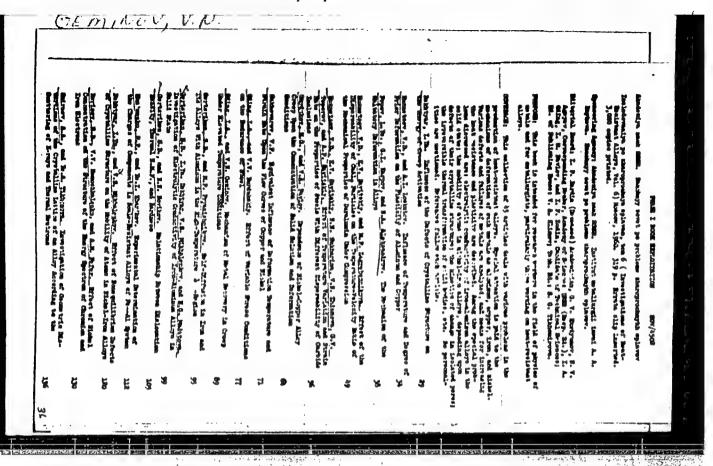
Direct Observation of Dislocations in Metals

metallic lattices. The latter can be detected by
other methods, described by the author, such as
the emission microscope. There are 2 photographs,
and 3 references 2 of which are Soviet and 1 English.

ASSOCIATION: Institut metallurgii Akademii nauk SSSR / Moskva
(Metallurgical Institute of the Academy of Science
of the USSR / Moscow)

Card 2/2

ODING, I.A.; GEMINOV, V.N.

Professor A.H.Cotrell's lectures. Metalloved. i term. obr. met.
no.5:46-49 My '61. (MIRA 14:5)
(Dislocations in metals)

10.9230   also 3,515, 4016, 1418

22537
S/096/61/000/006/004/006
E193/E183

AUTHOR: Geminov, V.N., Candidate of Technical Sciences

TITLE: Some problems of determining the strength of metals
           under conditions of prolonged loading

PERIODICAL: Teploenergetika, 1961, No.6, pp. 51-56

TEXT: The number of applications in which metal components
have to operate for periods ranging up to 50000-100000 h, or even
longer, has enormously increased in recent years. Consequently,
the problem has arisen of determining the so-called long-term
strength of metals, i.e. the maximum stress, σ, which can be
applied to a metal for a given period of time, t, without causing
fracture. Since experimental determination of σ corresponding to
very large t is not a practical proposition, the usual practice
is to carry out a series of short-time tests and to find the
magnitude of σ for any given t by extrapolation. According to
one school of thought, the relationship between σ and t is
described by $t = B\sigma^{-\beta}$, this function being represented by a
straight line if plotted in the log t/log σ coordinates.   If,
therefore, the results of short-term tests are plotted in these
Card 1/7

Some problems of determining the strength

coordinates, the magnitude of σ for any t can readily be found by extrapolation. In some cases, fairly accurate results are obtained by this method. Very often, however, the experimentally determined graph $\log t/\log \sigma$ consists of two or three linear branches whose slope increases with increasing t. This means that if the experimental points happen to coincide with only the first branch of such a graph, its extrapolation may give over-estimated values of σ. According to another school of thought, the relationship between σ and t constitutes an exponential function $t = A \exp - \gamma\sigma$ which is represented by a straight line, when plotted in the $\sigma/\log t$ coordinates. In fact, experimental results plotted in these coordinates form a straight line over a much wider range of t than when plotted in the $\log t/\log \sigma$ coordinates. At very large t, however, the slope of the $\sigma/\log t$ graphs also tends to change. In this case the slope decreases with increasing t which means that extrapolation of experimental $\sigma/\log t$ graphs, constructed on the basis of short-term tests, may give under-estimated values of σ. According to the present author, the inadequacy of both the above methods is due to the fact that the equations on which they are based have been

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S/096/61/000/006/004/006

Some Problems of determining the E193/E183

formulated on the assumption that the behaviour of metals under
prolonged loads is governed by one process only, namely the
process of gradual weakening of the metal, brought about by the
accumulation of defects. It has been shown, however, that side
by side with the formation and accumulation of defects, a counter-
acting process consisting in healing of the defects may take place
(Refs. 2, 8, 9). The gradual disintegration of a metal subjected
to prolonged loading is associated with the process of piling up
of vacancies which later merge to form microcracks; the rate of
this process is proportional to the rate of deformation and
consequently to the applied stress. The counteracting process of
healing of the defects consists in the piled-up v cancies
becoming occupied by the neighbouring atoms; the intensity of
this process does not depend on the magnitude of the applied
stress, but the longer the time of loading the higher becomes the
probability of a vacancy being occupied by one of the adjacent
atoms. An equation describing the relationship between σ and t,
which takes into account both these processes, is too complex to
be used in practical applications. However, a simplified, and yet
sufficiently accurate, form of this equation has been found
Card 3/7

22537
S/096/61/000/006/004/006
Some problems of determining the E193/E183

(Refs. 2, 8, 9) which is graphically represented by two
exponential branches, such as are shown in Fig.1.   From the
practical point of view, the most important properties of the
function, represented by the graph in Fig.1, consist in the
following: (1) the ratio of the slopes of the two linear
branches of the graph is constant for all alloys based on a given
metal or solid solution;   (2) the position of the deflection
point is unequivocally determined by the slope of the first
branch of the graph.   This means that if a short portion of the
first branch of the graph is experimentally determined, the
complete graph can be easily constructed. This is done in the
following manner.   (1) A portion of the first branch of the
$\sigma/\log t$ graph is constructed from experimental data, obtained
for the time interval of approximately 100 to 1500 hours.
(2) The coefficient γ_1 in the equation $t = A \exp - \gamma_1 \sigma$ is
calculated, the calculation being based on purely geometrical
considerations;   thus $\gamma_1 = (2.3 \log t_2/t_1)/(\sigma_1 - \sigma_2)$, where σ_1,
σ_2, t_1 and t_2 denote stresses and times corresponding to any
two points of the experimental graph (preferably chosen so as to
obtain $\log t_2/t_1 = 1$ or 2).   (3) The critical stress
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Some problems of determining the ....

(σ_K, see Fig.1) corresponding to the deflection point is calculated:
for steels $\sigma_K = 2/\gamma_1$; for alloys of the Nimonic type $\sigma_K = 2.5/\gamma_1$;
(the numerical coefficients for calculating σ_K of other alloys
are yet unknown). (4) The experimental graph (straight line) is
extrapolated to the point corresponding to σ_K. (5) The slope
γ_2 of the second branch of the graph is found: for steels
$\gamma_2 = 4\gamma_1$ (i.e. the slope of the second branch is four times smaller
than that of the first branch); for Nimonics $\gamma_2 = 2\gamma_1$.
(6) The second branch of the graph is drawn. The validity of
this method has been checked on approximately 140 $\sigma/\log t$ graphs,
constructed on the basis of published experimental data. Typical
results of this comparison are shown in Fig.2a, where σ of
several steels is plotted against $\log t$. The experimental results
are shown by points. The continuous lines are the branches of the
graphs drawn on the basis of the experimental data; the broken
lines represent the portions of the graphs obtained by the method
proposed by the present author. Curves 1-7 relate to steels of
the following compositions: (1) 0.13% Cr, 1.8 Mo, 1.6 W, Nb/Ta;
tested at 500 °C; $\gamma_1 = 0.15$. (2) 0.25% Cr, 0.8 Mo, 0.3 V, 0.2 C;
tested at 530 °C; $\gamma_1 = 0.11$. (3) 17% Cr, 2.2 Mo, 12 Ni, 0.6 Nb/Ta;
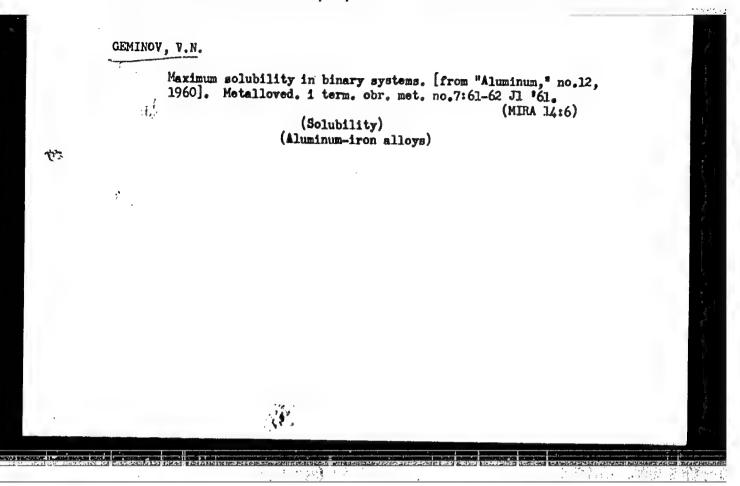Card 5/7

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Some problems of determining the ....

tested at 700 ^oC; $\gamma_1 = 0.38$.   (4) 0.8% Cr, 0.56 Mo; tested at 500 ^oC; $\gamma_1 = 1.65$.   (5) 2.3% Cr, 1.1 Mo, 0.1 C, Ni, V; tested at 550 ^oC; $\gamma_1 = 0.11$.   (6) 1.3% Cr, 0.5 Mo, 0.1 C; tested at 550 ^oC; $\gamma_1 = 0.27$.   (7) 0.22% C; tested at 510 ^oC, $\gamma_1 = 0.6$. In the final paragraphs of the present paper the problem of the safety factor is discussed. Owing to the wide scatter of the experimental results the σ/log t curve, based on the average values of σ obtained in several tests, should not be used for calculating the safe service loads. A "scatter band" should be constructed on the basis of statistical treatments of experimental data, and the service loads should be calculated on the basis of the lower boundary of this band. A nomogram is provided with the aid of which the width of the "scatter band" can be determined. There are 3 figures and 10 Soviet references.

ASSOCIATION: Institut metallurgii AN SSSR
                (Institute of Metallurgy, AS USSR)

Card 6/7

GEMINOV, V.N.

Maximum solubility in binary systems. [from "Aluminum," no.12, 1960]. Metalloved. i term. obr. met. no.7:61-62 Jl '61.

(MIRA 14:6)

(Solubility)
(Aluminum-iron alloys)

GEMINOV, V.N.; KOP'YEV, I.M.

Causes of the high strength of thin metallic threads. Zav.lab. 27
no.3:334-335 '61.   (MIRA 14:3)

1. Institut metallurgii im. A.A. Baykova Adademii nauk SSSR.
                    (Metals—Testing)

GERINOV, V.N.; KOP'YEV, I.M.

Strength of fine metal filaments. Trudy Inst.met. no.10:202-208
'62.   (MIRA 15:8)
          (Metal crystals--Defects)

S/032/62/028/011/012/015
B104/B102

AUTHOR: Geminov, V. N.

TITLE: Creep testing of specimens by the chain method

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 11, 1962, 1372 - 1374

TEXT: In creep tests and long-period tensile tests at elevated temperatures on specimens arranged in chains, the specimens are unloaded and cooled down to room temperature at certain intervals.. In the first case, this is done at predetermined intervals, in the second when a specimen fractures. The periodic releases and coolings constitute an essential difference from tests made on single specimens, for the shock waves propagating through the other specimens when one of them fractures do not occur in tests on single specimens. The effects of these interruptions on the results obtained were examined in 1X18H9T (1Kh18N9T) austenitic steel. The interruptions of load were made at the beginning and the end of the second creeping stage and reloading was performed gently. The results imply that short-period interruptions have no effect on the creep strength of the material. In practice, however, more than two interruptions are made, loading is apt to be applied less gently, and shock

Card 1/2

Creep testing of specimens by the chain method   S/032/62/028/011/012/015
                                                   B104/B102

waves occur in the specimens; these compress the material of the specimens
and disturb the deformation. There are 3 figures and 1 table.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of
               Metallurgy imeni A. A. Baykov)

Card 2/2

AUTHORS: Oding, I. A., Corresponding Member AS USSR, and Geminov, V.N

TITLE: The relation between the dislocation distribution in the
activation energy levels and the amount of deformation

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 4, 1962, 836 - 839

TEXT: In previous papers I. A. Oding (Sborn. Issledovaniya po metallovede-
niyu, M.-L., 1932; Prochnost' metallov, M.-L., 1936) has proposed the

empirical relation $\delta = A\frac{B^{\sigma}-1}{B-1}$ between true deformation δ and true tension

σ, where A is the plasticity factor, B the deformation factor. By assuming
a power-law distribution $N = N_0 \exp\{\alpha(\sigma - \sigma_0)\}$ of the dislocations in a

crystal, a deformation equation is derived which is well confirmed by
experiments. σ_0 is the minimum dislocation activation tension, N_0 the

number of dislocations corresponding to σ_0. From the experimentally

proved linear dependence of the density of trapped dislocations from de-
Card 1/2

The relation between the ...

S/020/62/143/004/015/027
B104/B102

formation, the authors conclude that activated dislocations and trapped dislocations are related by a constant factor which is probably unit. Result: the trapped dislocations have a power-law distribution over the activation levels. There is 1 figure.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR (Institute of Metallurgy imeni A. A. Baykov of the Academy of Sciences USSR)

SUBMITTED: December 29, 1961

Card 2/2

GEMINOV, V.N.

Processing of experimental data on stress-rupture strength. Issl. po
zharoproch. splav. 10:113-116 '63.   (MIRA 17:2)

GEMINOV, V.N.; TRUNIN, I.I.; TARKHANOV, G.V.; BORZDYKA, A.M.; AYVAZYAN,:S.A.

Discussion concerning the interpretation of the results of testing of the stress-rupture strength of a metal of several smeltings.
Zav.lab. 29 no.7:827-837 '63.   (MIRA 16:8)

1. Institut metallurgii im. A.A.Baykova (for Geminov). 2. TSentral'nyy nauchno-issledovatel'skiy i proyektnyy institut tekhnologii i mashinostroyeniya (for Trunin, Tarkhanov). 3. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I.P.Bardina (for Borzdyka). 4. Matematicheskiy institut im. V.A.Steklova AN SSSR (for Ayvazyan).
                              (Metals--Testing)

L 23352-65   EWP(w)/EWT(m)/EWA(d)/T/EWP(t)/EWP(b)   JD/MLK
ACCESSION NR: AT4046820   S/0000/64/000/000/0079/0082

AUTHOR: Oding, I. A. (Deceased) (Corresponding member AN SSSR); Geminov, V. N.

TITLE: The theory of damage during creep

SOURCE: AN SSSR. Nauchny*y sovet po probleme zharoprochny*kh splavov. Issledovaniya staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 79-82

TOPIC TAGS: creep, proportionality coefficient, steel alloy, alloy hardening, crystal vacancy, structure dislocation

ABSTRACT: The total durability of metals under variable loads in creep conditions was studied for a series of alloys. The derivation of the formulas used to determine this factor is given in stepwise detail. The empirical coefficient z in these formulas is determined by the dependence of z on $\Delta \sigma = \sigma_2 - \sigma_1$ during overloading; in the coordinates $\lg z - \Delta \sigma$ these points lie on a straight line. With $\sigma_1 > \sigma_2$, the value of z is > 1, and with $\sigma_1 < \sigma_2$, z is < 1. A comparison of experimental and theoretical data for the accumulation of damage during single overloading for a number of alloys is shown. In all of the investigated cases, the theoretical values of z at $\Delta \sigma < 0$, i.e., during the transfer from the greater to the smaller tensions, agree with the experimental data or exceed them. With $\Delta \sigma > 0$, i.e., during the transfer from smaller to greater tensions,

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L 23352-65
ACCESSION NR: AT4046820

a relative hardening of the metal is observed in certain cases, and the theoretical values of z are higher then the experimental ones. In other cases, either a relative softening is observed, and the theoretical values of z are lower than the experimental, or the experimental and the theoretical values agree. Orig. art. has: 2 figures and 7 formulas.

ASSOCIATION: none

SUBMITTED: 16Jun64   ENCL: 00   SUB CODE: MM

NO REF SOV: 003   OTHER: 000

Card 2/2

L 27233-66   EWT(m)/T/EWP(w)/EWP(t)   IJP(c)   JD
ACC NR: AM6003228   Monograph   40   UR/
                                                                                   37
                                                                                   B/

Ivanova, V. S.; Gorodiyenko, L. K.; Geminov, V. N.; Zubarev, P. V.; Fridman, Z. G;
  Liberov, Yu. P.; Terent'yev, V. F.; Vorob'yev, N. A.; Kudryashov, V. G.

Role of dislocation in the strengthening and failure of metals (Rol'dislokatsii
  v uprochnenii i razrushenii metallov) Moscow, Izd-vo "Nauka", 1965. 179 p.
  illus., biblio. Errata slip inserted. 4500 copies printed.

TOPIC TAGS: metal, alloy, metal strength, alloy strength, dislocation, disloca-
  tion theory, thermomechanical treatment, metal failure

PURPOSE AND COVERAGE: The book is a continuation and development of the ideas
  of the late Professor I. A. Oding on the theory of dislocations. This theory
  served as the basis for the elaboration of new methods of strengthening metals
  and alloys. In the first part (Chap. I-IV) of this monograph the role of dis-
  locations in the development of plastic deformation and the generation of flaws
  is discussed. In the second part (Chap. V-VII), the theoretical premises for
  metal and alloy strengthening with thermomechanical treatment and the effect of
  this treatment on the mechanical properties of metals and alloys under static
  and cyclic loads are reviewed.

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  Card 1/2   UDC: 669.018.25:669-17

L 27233-66

ACCNR: AM6003228

3

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Ch. I. Regularities of slopping and strengthening on the different grades of
   deformation -- 7
Ch. II. Formation of submicroscopic flaws during deformation as a result of
   multiplication of and interaction between defects of the crystal lattice -- 29
Ch. III. Effect of grain size, temperature, and deformation rate on the charac-
   teristics of metal fluidity -- 46
Ch. IV. Mechanism of brittle rupture and regularities in the defectibility of
   metals during creep -- 73
Ch. V. Basic premises for the development of methods of material strengthening
   by means of thermomechanical treatment -- 103
Ch. VI. Effect of basic technological factors on the effect of strengthening in
   thermomechanical treatment -- 119
Ch. VII. Increase of cyclic strength under combined thermomechanical
   treatment -- 148

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SUB CODE: 11/ SUBM DATE: 06Aug65/ ORIG REF: 180/ OTH REF: 238/

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L 40043-66   EWP(k)/EWT(d)/EWT(m)/EWP(h)/T/EWP(1)/EWP(w)/EWP(v)/EWP(t)/ETI   IJP(c)
ACC NR: AP6016584   (A,N)   RH/JD/HW   SOURCE CODE: UR/0129/66/000/005/0014/0017

AUTHORS: Gordiyenko, L. K.; Geminov, V. N.; Fridman, Z. G.; Vasil'chenko, G. S.;
Rybovalov, Yu. P.

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii); TsNIIT MASh

TITLE: Raising the creep resistance of steel of the martensite-ferrite class by
methods of mechanical thermal processing

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1966, 14-17

TOPIC TAGS: metallography, mechanical heat treatment, creep, metal deformation, martensite
steel, ferrite steel, deformation testing machine / IP-2 deformation testing machine,
IP-5 deformation testing machine, IM-4R deformation testing machine, 1Kh12V2MF
martensite steel

ABSTRACT: Research was conducted for the purpose of finding effective combinations
for strengthening steel 1Kh12V2MF. This steel was used in the preparation of tubular
disks and was worked at a temperature of 550C. Several thermomechanical processes
were used in preparing the specimens for testing. The processes were treated as
parametric cases for the strength-creep measurements. Among the testing equipment
were machines IP-2, IP-5, and IM-4R. Several effects were measured, including the
effect of the degree of deformation on the strengthening for several methods of
thermomechanical processing, the creep rate at constant stress, and temperature for

UDC: 669.14.018.45:621.78:539.374

Card   1/2

L 40043-66

ACC NR: AP6016584   O

different processes, and the increase in creep stability obtainable through the use
of optimal thermomechanical processes. It was found that optimal processing can
reduce the creep rate by as much as 80% over the rate which characterizes the
unstrengthened material. The steps involved in the recommended optimal process are
sequentially summarized. Orig. art. has: 3 tables and 2 figures.

SUB CODE: 11,13/SUBM DATE: none/ ORIG REF: 004

Card 2/2 gd

USOVSKIY, B.N.; GEMINOVA, N.V.; KRASNOSEL'SKAYA, T.A.[deceased]; LEPESHIN-
SKAYA, Ye.V., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor

[English-Russian agricultural dictionary] Anglo-russkii sel'sko-
khoziaistvennyi slovar'. Izd. 3-e, perer. Moskva, Gos. izd-vo
tekhniko-teoret. lit-ry, 1956. 532 p.   (MLRA 9:8)
        (English language--Dictionaries--Russian)
        (Agriculture--Dictionaries)

38301   GEMKE, G. R.

Rezul'taty lechebnogo primeneniya preparatov pustyrnika pri giperatsidnom
gastrite, yazvennoy bolezni zheludka i dvenadtsatiperstnoy kishki.
Zdravookhraneniye kazakhstana, 1949, No 6, s. 13-21

GEMKE, O.R.

Treating gastritis in patients with silicosis. Zdrav.Kazakh. 16
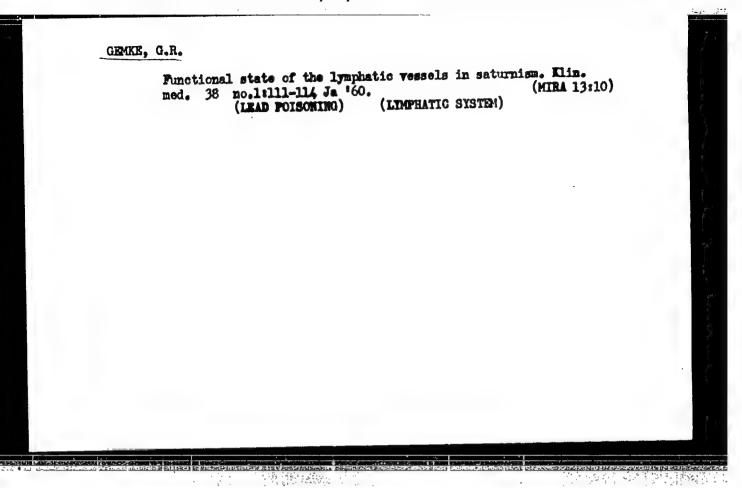no.9:28-30 '56.   (MLRA 10:1)

1. Iz terapevticheskogo otdeleniya (zav. - professor V.V.Gerbst)
Ust'-Kamenogorskoy oblastnoy ob"yedinennoy bol'nitsy.
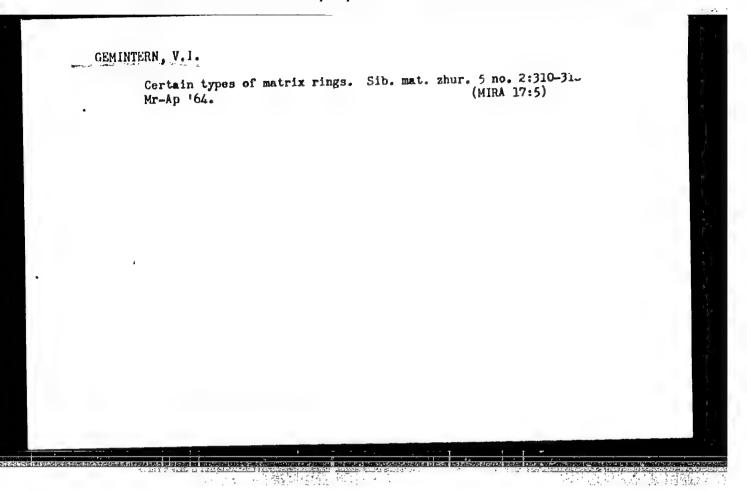   (LUNGS--DUST DISEASES)   (STOMACH--DISEASES)

GEMKE, O.R.

Possible genesis of bronchial asthma from lead poisoning. Gig.
truda i prof.zab. 3 no.4:47 Jl-Ag '59.   (MIRA 12:11)
         (ASTHMA)
         (LEAD POISONING)

GEMKE, G.R.

Functional state of the lymphatic vessels in saturnism. Klin.
med. 38 no.1:111-114 Ja '60.   (MIRA 13:10)
        (LEAD POISONING)   (LYMPHATIC SYSTEM)

GEMINTERN, V.I.

Certain types of matrix rings. Sib. mat. zhur. 5 no. 2:310-31.
Mr-Ap '64.   (MIRA 17:5)

KAYRAKBAYEV, M.K.; GEMKE, G.R.

Use of a paranephric novocaine block in lead colic. Trudy Inst.
kraev. pat. AN Kazakh SSR 9:110-114 '61.   (MIRA 16:7)
                (COLIC) (NOVOCAINE) (LEAD POISONING)

PALKIN, V.N.; GEMKE, G.R.

     Diagnosis and treatment of eosinophilic pneumonia. Zdrav. Kazakh.
     21 no.9:26-28 '61.   (MIRA 14:10)

     1. Iz Ust'-Kamenogorskogo klinicheskogo otdeleniya (zav. - kand.med.
     nauk M.K.Kayrakbayev) Instituta krayovoy patologii AN Kazakhskoy
     SSR.
                         (PNEUMONIA)

GEMKE, G.R. (Ust-Kamenogorsk)

Arterial tone as affected by lead. Gig. truda i prof. zab.
4 no.2:49-53 F '60.   (MIRA 15:3)

1. Vostochno-Kazakhstanskiy oblastnoy otdel zdravookhranoniya.
                    (BLOOD PRESSURE)
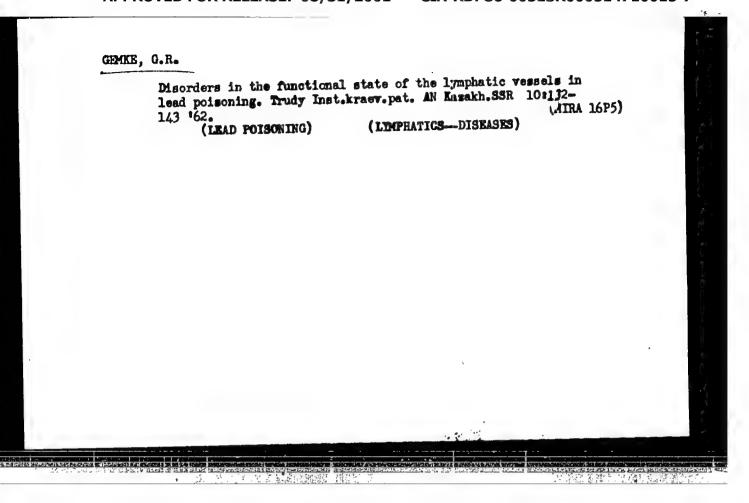   (LEAD--PHYSIOLOGICAL EFFECT)

GEMKE, G.R.; PALKIN, V.N. (Ust'-Kamenogorsk)

Hepato-bronchial fistulas. Vrach. delo no.6:90-94 Je '61.
(MIRA 15:1)

1. Vostochno-Kazakhstanskaya oblastnaya bol'nitsa.
(FISTULA)   (LIVER DISEASES)   (BRONCHI DISEASES)

GEMKE, G.R.

Disorders in the functional state of the lymphatic vessels in
lead poisoning. Trudy Inst.kraev.pat. AN Kazakh.SSR 10:132-
143 '62.

(AIRA 16P5)

(LEAD POISONING)   (LYMPHATICS--DISEASES)

GEMKE, G.R.

Disorders in the symmetry of arterial pressure in persons coming
in contact with lead. Trudy Inst.kraev.pat. AN Kazakh.SSR 10:144-
152 '62.   (MIRA 16:5)
        (LEAD POISONING) (BLOOD PRESSURE) (SYMMETRY (BIOLOGY))

CEMKE, G.R.; PAKHOTINA, N.S.

Case of poisoning with hydrogen sulfide in combination with
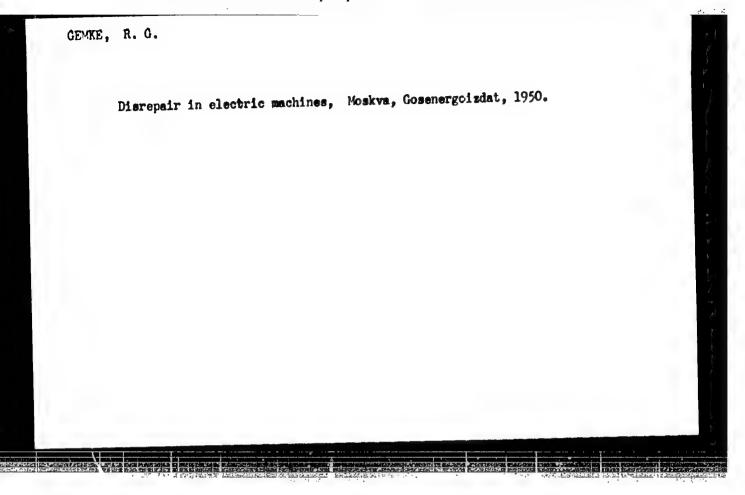alcohol. Trudy Inst.kraev.pat. AN Kazakh.SSR 10:226-229 '62.

(MIRA 16:5)

(POISONING) (ALCOHOL--PHYSIOLOGICAL EFFECT)
(HYDROGEN SULFIDE--TOXICOLOGY)

GEMKE, G.R.; SABDENOVA, Sh.S.

Case of the formation of edemas in treating lead colic with
calcium disodium salt of EDTA. Trudy Inst.kraev.pat. AN
Kazakh. SSR 9:115-117'61.   (MIRA 16:7)
(EDEMA)   (LEAD POISONING)   (ACETIC ACID)

GEMKE, Rudol'f Georgiyevich; RIVLIN, L.B., inzh.[deceased];
RIVLIN, L.B., red.; ZHITNIKOVA, O.S., tekhn. red.

[Faults in electrical machines] Neispravnosti elektriche-
skikh mashin. Izd.6., podgotovlennoe inzh. L.B.Rivlinym.
Moskva, Gosenergoizdat, 1963. 246 p.   (MIRA 16:7)
        (Electric machinery--Maintenance and repair)

GEMKE, R. G.

Disrepair in electric machines, Moskva, Gosenergoizdat, 1950.

MAZURENKO, N.P.; GEMMA, O.I.

Effect of untreated B.mesentericus preparations on the growth of
tumors in mice. Vrach.delo supplement '57:99   (MIRA 11:3)

1. Laboratoriya bioterapii raka (zav.-N.P.Mazurenko) Kiyevskogo
instituta epidemiologii i mikrobiologii.
          (BACILLUS MESENTERICUS) (TUMORS)

GULYY, M.F.; MAZURENKO, N.P.; GONCHAREVSKAYA, T.S.; DAGTYAR', R.G.; GEMMA, O.I.; SLYUSARENKO, I.T.; ZAKHAROV, A.V.

Preparation from the lytic substaces of Bacillus mesentericus and its action on ascitic cancer in mice. Vrach. delo no.12:1347 D '57.
(MIRA 11:2)

1. Laboratoriya bioterapii raka (zav. - kand.med.nauk N.P.Mazurenko) Kiyevskogo instituta epidemiologii i mikrobiologii i otdel tkanevykh belkov (zav. - chlen-korrespondent AN USSR, prof. M.F.Gulyy) Instituta biokhimii AN USSR.
(CANCER)   (BACTERIA, AEROBIC)

GEMMERLING, A. V.

Gemmerling, A. V. – "On the calculation of externally compressed thin-walled tubes",
Trudy Laboratorii stroit. mekhaniki (Tsentr. nauch.-issled. in-t prom. sooruzheniy),
Moscow, 1949, p. 104-29.

SO; U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

GEMMERLING, A.V., kandidat tekhnicheskikh nauk; TROFIMOV, V.I., kandidat tekhnicheskikh nauk.

Testing a model of the framework of the building of the Palace of Culture and Science in Warsaw. Stroi.prom.32 no.2:28-33 F '54.
(MLRA 7:2)
(Warsaw--Building, Iron and steel) (Building, Iron and steel--Warsaw)

GEMMERLING, A.V., kandidat tekhnicheskikh nauk; TROFIMOV, V.I., kandidat
tekhnicheskikh nauk; MILEYKOVSKIY, I.Ye., kandidat tekhnicheskikh
nauk; KOCHERGOVA, Ye.Ye., kandidat tekhnicheskikh nauk; BELYAYEV,
B.I., laureat Stalinskoy premii, inzhener, redaktor; ROSTOVTSEVA,
M.P., redaktor; MEDVEDEV, L.Ya., tekhnicheskiy redaktor.

[Investigation of the work of framed structures] Issledovanie
raboty ramnykh konstruktsii. Moskva, 1955. 136 p. (Moscow.
TSentral'nyi nauchno-issledovatel'skii institut promyshlennykh
sooruzhenii. Nauchnoe soobshchenie no.21).   (MLRA 9:2)
                         (Structural frames)

124-57-1-940

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 130 (USSR)

AUTHOR: Gemmerling, A. V.

TITLE: The Carrying Ability of Steel Beams Subject to Pure Compression and to Combined Compression and Bending (Nesushchaya sposobnost' szhatykh i szhato-izognutykh stal'nykh sterzhney)

PERIODICAL: V sb.: Issledovaniye prochnosti, plastichnosti i polzuchesti stroit. materialov. Moscow, 1955, pp 35-99

ABSTRACT: Basic assumptions are stated for the calculation of certain problems relative to the stability in the elastic-plastic range of structural steel elements. An approximate formula is adduced for the critical load of an eccentrically compressed elastic cantilever beam having a square cross section; the deduction is made that all structural steel beams under compression, for all practical intents and purposes, lose their stability in the elastic-plastic range. The author reaches the conclusion that for steel beams having a three-flange cross section working in the elastic-plastic range, the magnitude of the critical force can be calculated from the Euler formula for beams of uniform cross section, but

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124-57-1-940

The Carrying Ability of Beams Subject to Pure Compression (cont.)

using the moment of inertia of the elastic nucleus; this affords a solution
of the problem by means of its division into two parts - a linear and a
non-linear part. It is indicated that such a treatment permits a ready and
simple evaluation of the effects upon the stability of a structural member
of such phenomena as plastic deformations, local losses of stability, incipi-
ent general and local distortions, etc. An analysis is also offered of the
working of thin laminar steel construction elements in the elastic-plastic
stage. From a number of experimental findings obtained at the TsNIIPS,
the author states that such elements, within the range of normally employed
ratios of dimensions, appear to be fully stable throughout the elastic and
the elastic-plastic ranges. Results of a study of the character of the de-
formation of eccentrically compressed H-beams within the critical range
are presented; the conditions in which the appearance of flexural-torsional
instability cannot occur are presented.

N. S. Chausov

1. Beams--Stability--Theory   2. Beams--Stability--Mathematical analysis
3. Approximate computations--Applications

Card 2/2

AUTHORS: Baldin, V. A., Gemmerling, A. V., Trofimov, V. I.

TITLE: Experimental Investigation of the Elastic-plastic Working of Low-carbon Steel Subject to Simple and Compound Loads (Eksperimen tal'noye issledovaniye uprugo-plasticheskoy raboty malouglerodistoy stali pri prostom i slozhnom nagruzheniyakh)

ABSTRACT: Experimental investigations are made of the stress-strain relation-ship (initial strain of up to 2%) of mark St.0 and St.3 soft steel sub-jected to a plane stress condition (simple and compound loads). A spe cial test installation is used for biaxial compression and biaxial com pression-tension. Compression loads were applied by means of a flex-ible rack that minimized the effects of friction on the process of strain development. Strain was applied by means of a 100-ton jack along one axis and by means of a 300-ton universal load-testing machine along the other axis. Biaxial compression specimens consisted of plates measuring from 82x82 mm up to 83.5x83.5 mm with a thickness of from

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Experimental Investigation of the Elastic-plastic Working of Low-carbon (cont.)

14.5 to 16 mm.   Tension-compression tests were performed on strips measuring 800 mm with a 16x40 mm cross section.   The authors came to the conclusion that for simple biaxial loads the yield point occurs between the conditions of Saint Venant and those of Hencky-Huber-Mises, but nearer to that of Saint Venant.   It is noted that the possibility of constructing generalized stress-strain curves is qualitatively substantiated.

P. O. Pashkov

Card 2/2

AUTHORS: Gemmerling, A. V., Klimov, N. I.

TITLE: Carrying Capacity of Centrally and Eccentrically Compressed Rods
             of NL2 Brand Steel (Nesushchaya sposobnost' tsentral'no i vnetsent-
             renno szhatykh sterzhney iz stali marki NL2)

PERIODICAL: V sb.: Issledovaniya po stal'nym konstruktsiyam. Moscow, 1956.
             pp 68-96

ABSTRACT: Studies are conducted on the stability of pin-jointed compressed
             prismatic rods of NL2 steel subjected to flexure in the plane of the ap-
             plied forces which coincides with the plane of symmetry. The assump-
             tions of Ježek (K. Ježek, Stahlbau, 1933) are adopted (conservation of
             the normals, idealized stress-strain diagram, sinusoidal semi-wave
             flexure pattern, and the substitution of the curvature by the second de-
             rivative). A cross section consisting of three rectangles is studied.
             Under unilateral yield the criterion of the loss of stability is expressed
             in the form of

$$\frac{dM}{da} = \frac{dM_e}{da} \qquad (*)$$

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SOV/124-57-7-8244

Carrying Capacity of Centrally and Eccentrically Compressed Rods (cont.)

where M and M_e correspondingly are the internal and the external moments of forces in the central cross section respectively, and a is the cross-sectional depth of the elastic band.   Under the given assumptions expression (*) is known to be equivalent to the condition of a stationary magnitude of the compression force (see RZhMekh, 1957, abstract 941).   Tables are given for the values of $\phi = \sigma_{crit} / \sigma_t$ for a number of different types of cross sections.   Test-result data are given for 14 types of wide-flange beams.   Flexotorsional loss of stability was observed with an eccentric application of force to the plane of the web.   The difference between the theoretical and the experimental results for the application of the eccentric force to the plane of least stiffness did not exceed 10%.

B. M. Broude

Card 2/2

AUTHOR: Gemmerling, A. V.

TITLE: Influence of Various Supplementary Factors on the Bearing Capacity of Structural Steel Elements (Vliyaniye razlichnykh dopolnitel'nykh faktorov na nesushchuyu sposobnost' elementov stal'nykh konstruktsiy)

PERIODICAL: V sb.: Issledovaniya po stal'nym konstruktsiyam. Moscow, 1956, pp 158-200

ABSTRACT: The author adduces the results of experimental investigations of elements of steel structures that deviate from the ideal calculation scheme, such as grid columns having eccentric joints between the cross stays and the longerons, segments of masts and cruciform columns with nonaligned butt joints, and wide-flange I beams. An analysis of the results shows the substantial dependence of the bearing capacity on the magnitude of the above-indicated imperfections.
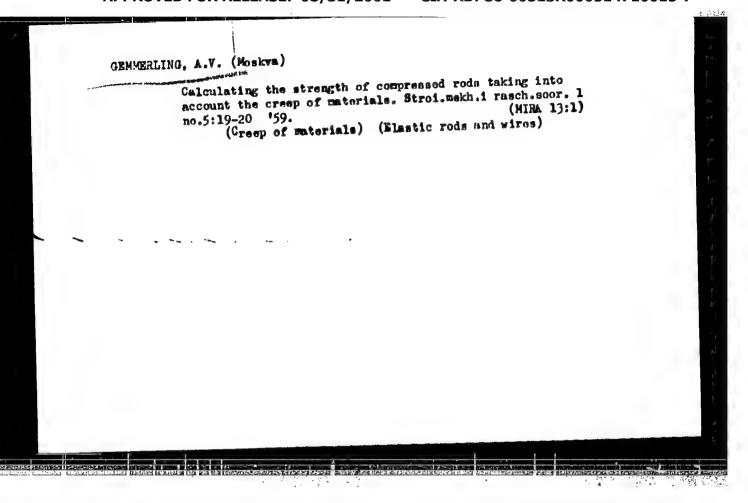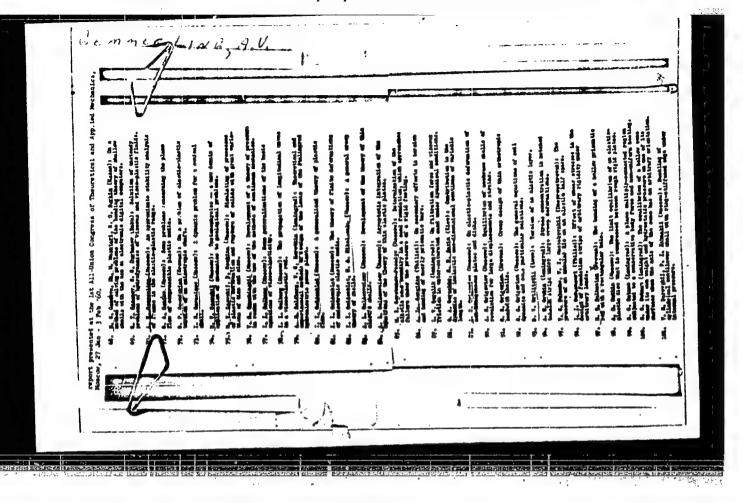   S. N. Nikiforov

Card 1/1

GEMMERLING, A.V., kand.tekhn.nauk, dots.; YEGOROVA, N.A., red.izd-va;
TOKER, A.M., tekhn.red.

[Supporting power of steel bar structures] Nesushchaia sposobnost'
sterzhnevykh stal'nykh konstruktsii. Moskva, Gos. izd-vo lit-ry
po stroit., arkhit. i stroit. materialam, 1958. 215 p. (MIRA 11:4)
(Structural frames)   (Building, Iron and steel)

GEMMERLING, A. V.: Doc Tech Sci (diss) -- "The bearing strength of steel rod structures". Moscow, 1959. 31 pp (Acad Construction and Architecture USSR), 150 copies (KL, No 17, 1959, 108)

GEMMERLING, A.V. (Moskva)

Stability of eccentrically loaded compressed rods in the elastic-plastic stage. Stroi.mekh. i rasch.soor. 1 no.2:1-8 '59.
(MIRA 12:4)

(Elastic rods and wires)

GEMMERLING, A.V. (Moskva)

Calculating the strength of compressed rods taking into
account the creep of materials. Stroi.mekh.i rasch.soor. 1
no.5:19-20 '59. (MIRA 13:1)
(Creep of materials) (Elastic rods and wires)

GEKKERLING, A.V. (Moskva)

Stability of prestressed beams. Stroi.mekh.i rasch.
soor. 2 no.3:14-16 '60. (MIRA 13:6)
(Prestressed concrete) (Girders)

GEMMERLING, A.V., doktor tekhn.nauk

Problems of the strength and stability of building structures.
Trudy TSNIISK   no.7:6-32 '61.   (MIRA 15:3)
(Theory of structures)

GEMMERLING, A.V., doktor tekhn.nauk; BEL'SKIY, G.Ye., kand.tekhn.nauk

Bearing capacity of frames under elastoplastic conditions.
Trudy TSNIISK   no.7:33-62 '61.   (MIRA 15:3)
(Structural frames--Testing)

GEMMERLING, A.V., doktor tekhn.nauk; OS'KIN, B.I., inzh.

Calculation of prestressed beams under elastoplastic conditions.
Trudy TSNIISK no.7:97-124 '61.   (MIRA 15:3)
                      (Beams and girders)

GEMMERLING, A.V. (Moskva)

Compression testing of cylindrical shells. Stroi.mekh.i rasch.
soor. 5 no.2:19-23 '63.   (MIRA 16:6)
                    (Elastic plates and shells--Testing)

GEMMERLING, A.V. (Moskva)

Computers and the design of structures. Stroi. mekh. i rasch.
soor. 5 no.3:1-4 '63.   (MIRA 16:6)

(Electronic digital computers)
(Structures, Theory of)

GENDERLING, A.V., doktor tekhn. nauk, prof., red.; BALDIN, V.A.;
kand. tekhn. nauk, red.; ZUBKOVA, M.C., red.

[Prostressed steel and cable structures] Stal'nye pred-
varitel'n -napriazhennye i trosovye konstruktsii. Moskva,
Stroiizdat, 1964. 217 p.   (MIRA 17:9)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut
stroitel'nykh konstruktsiy.

GEMMERLING, G.; GLADKOVSKIY, T.

Slag-pumice concrete in panels of outer walls. Na stroi. Ros.
3 no.5:22-23 My '62. (MIRA 15:9)

1. Rukovoditel' laboratorii stroitel'nykh materialov Ural'skogo
filiala Akademii syroitel'stva i arkhitektury SSSR (for
Gemmerling). 2. Nachal'nik tsentral'noy stroitel'noy laboratorii
tresta Chelyabmetallurgstroy (for Gladkovskiy)
(Concrete walls)

1.9600

S/055/60/000/005/009/010
C111/C222

AUTHOR: Gemmerling, G.A.

TITLE: The Stability Beyond the Elastic Limit, of a Straight Centrally
Compressed Bar of Linearly Consolidating Material

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya I, matematika,
mekahnika, 1960, No.5, pp.68-72

TEXT: The author considers a vertical straight bar with a constant
rectangular cross section which is tightly clamped at the lower end and
free at the upper end. A central vertical load acts upon the bar where the
tensions exceed the elastic limit. The bar is in the state of equilibrium.
The author investigates the connection between the buckling load and the
perturbations assumed to be one-parametric by which a bending of the bar
to a parabola of second order is caused. It is stated that to different
systems of perturbations there correspond different buckling loads. The
dependence of the buckling load on the parameter of the perturbations is
given.
There are 8 figures and 4 references: 3 Soviet and 1 American.

ASSOCIATION: Kafedra teorii plastichnosti (Chair of Theory of Plasticity)

SUBMITTED: November 25, 1959
Card 1/1

AUTHOR: Gemmerling, G. A. (Moscow)

TITLE: The effect of the loading path on the characteristic dimension of a plate along which the plate bulges

TOPIC TAGS: bulging, strain, stress, stress analysis, bending, plate bulging, bulging deformation, nonelastic deformation, deformation

ABSTRACT: A discussion of the stability of a plate compressed beyond the limit of elasticity. The force of the bulging of the plate depends on the path of the loading up to the moment of loss of stability since deformations depend to a great extent on the loading path while the rigidity of the plate at bending may depend not only on stresses but also on deformations. The final stressed state is taken and a study is made of the relationship between the characteristic parameter of the plate along which the bulging takes place and the path of the change in the stresses up to their final values. It is assumed that there are no zones of loading in the plate at the moment of bulging. Orig. art. has: 20 formulas.

Card 1/4

ACCESSION NR: AP4022651   S/0207/64/000/001/0080/0084

AUTHOR: Gemmerling, G. A. (Moscow)

TITLE: On the plasticity postulate

SOURCE: Zhurnal priklad. mekhan. i tekhn. fiz., no. 1, 1964, 80-84

TOPIC TAGS: plasticity postulate, flow theory, stress function, stress deviator, Drucker postulate

ABSTRACT: The author studies a simplified model based on the second invariant of the stress deviator and treats the generalized Drucker postulate. Use of this postulate leads, in special cases, to an essential restriction on the admissible form of the stress function. He shows that all the basic results of flow theory are preserved under the obtained flow law. "The author thanks V. D. Klyushnikov under whose direct guidance this work was done." Orig. art. has: 41 formulas.

ASSOCIATION: none

SUBMITTED: 03May63   DATE ACQ: 08Apr64   ENCL: 00

SUB CODE: ME   NO REF SOV: 012   OTHER: 003

Card 1/1

SKRAMTAYEV, B.D., doktor tekhn.nauk, prof.; GEODEKLING, G.V., kand.geol.-min.nauk; DONNICH, A.I., aspirant

Coarse porous concrete made with waste blast-furnace slags. Bet. i zhel.-bet. no.10:439-442 O '60.   (MIRA 13:10)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Skramtayev).
(Concrete)   (Slag)

GEMMERLING, G.V., kand.geolog-mineralogicheskikh nauk; BOBROV, B.S., inzh.

Study of the hydration process of lime-ash binding materials
using artificial aluminum silicate glass. Stroi.mat. 8
no.3:30-32 Mr '62.   (MIRA 15:8)
(Binding materials)   (Aluminum silicates)

CHERNYY, A.S.; GEMMERLING, G.V.; GLANTS, A.I.

Slag pumice concrete is an effective material for the manufacture of exterior wall slabs. Stroi. mat. 9 no.4:19-22 Ap '63.
(MIRA 16:5)

1. Glavnyy inzhener tresta Chelyabmetallurgstroy (for Chernyy).
2. Ural'skiy filial Akademii stroitel'stva i arkhitektury SSSR (for Glants).

(Lightweight concrete)   (Walls)

GEMMERLING, G.V.; GLANTS, A.I.

Monograph on the use of slag and ash cement. Stroi. mat. 10 no.11:
40   N '64.   (MIRA 18:1)

1. Rukovoditel' laboratorii stroitel'nykh materialov Ural'skogo
nauchno-issledovatel'skogo instituta zhelezobetonnykh izdeliy,
stroitel'nykh i nerudnykh materialov (for Gemmerling).

GEMMERLING, V., kand. geol.-min. nauk, red.; GOLYSHEV, A.B., kand. tekhn. nauk, red.; CHURKIN, Yu.M., inzh., red.; LIBENZON, I.R., red.

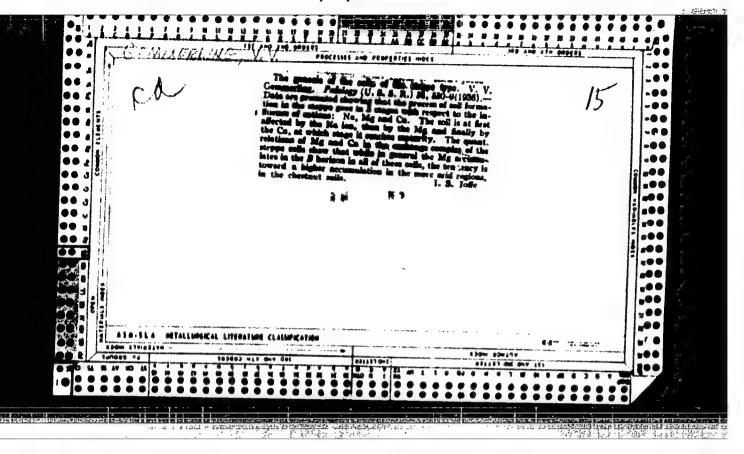[Building materials and concrete] Stroitel'nye materialy i betony. Cheliabinsk, 1964. 249 p.   (MIRA 17:3)

1. Chelyabinsk. Ural'skiy gosudarstvennyy nauchno-issledovatel'skiy institut sbornykh zhelezobetonnykh izdeliy i konstruktsiy.

MARCHENKO, A.A., laureat Leninskoy premii, red.; GEMMERLING, G.V.,
kand. geol.-miner. nauk, nauchn. red.

[Vermiculite; its properties, swelling technology, and
combined enclosing structures and elements] Vermikulit;
svoistva, tekhnologiia vspuchivaniia, kompleksnye og-
razhdaiushchie konstruktsii i izdeliia. Moskva, Stroi-
izdat, 1965. 213 p.   (MIRA 18:7)

PROCESSING AND PROPERTIES NOTE

The genesis of the soils of the steppe type. V. V. Commander. *Pedology* (U. S. S. R.) *34*, 450-9 (1936).—Data are presented showing that the process of soil formation in the steppe goes in 3 stages with respect to the Bureau of cations: Na, Mg and Ca. The soil is at first affected by the Na ion, then by the Mg and finally by the Ca, at which stage it reaches maturity. The quant. relations of Mg and Ca in the exchange complex of the steppe soils show that while in general the Mg accumulates in the β horizon in all of these soils, the tendency is toward a higher accumulation in the more arid regions, in the chestnut soils.

I. S. Joffe

810-114 METALLURGICAL LITERATURE CLASSIFICATION

GEMMERLING, V.V.

A comparative characteristic of the organic matter of various soil types.
Uchenye Zapiski Moskov. Gosudarst. Univ. im. M.V. Lomonosova No.105, Pt. 2,
82-95 '46.
(CA 47 no.21:11629 '53)
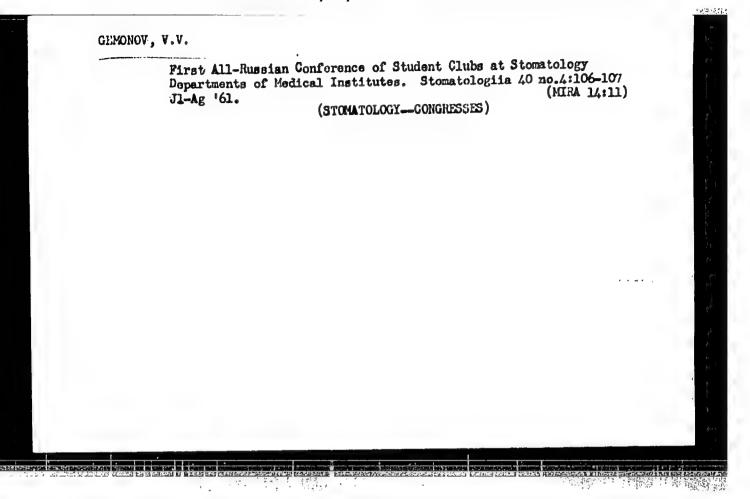
GEMONOV, V.V., aspirant

Changes in the glycogen content within the epithelium of the
mucous membrane of the oral cavity in the process of rege-
neration. Teor. i prak. stom. no.5:60-65 '61   (MIRA 16:12)

1. Kafedry gistologii (zav. - prof. L.I.Falin) Moskovskogo
meditsinskogo stomatologicheskogo instituta.

GEMONOV, V.V., aspirant

Changes in the ribonucleic acid content in the regeneration of the mucous membrane of the oral cavity. Teor. i prak.stom. no.6:34-40 '63.   (MIRA 18:3)

1. Iz kafedry gistologii (zav. - prof. I.I.Falin) Moskovskogo meditsinskogo stomatologicheskogo instituta.

GEMONOV, V.V.

First All-Russian Conference of Student Clubs at Stomatology
Departments of Medical Institutes. Stomatologiia 40 no.4:106-107
Jl-Ag '61. (MIRA 14:11)

(STOMATOLOGY—CONGRESSES)

TSAPKO, A.S.,oty.red.; GLIKMAN, S.A., doktor khim. nauk, prof.,red.; GEMP, K.P., st. nauchn. sotr., red.; GRYUNER, V.S., doktor tekhn. nauk, red.; DANILOV, S.N., red.; YEVTUSHENKO, V.A., kand. khim. nauk, red.; ZINOVA, A.D., kand. biol. nauk, red.; KIZEVETTER, I.V., doktor tekhn. nauk, red.; KIREYEVA, M.S., kand. biol. nauk, red.; VULIKHMAN, M.A., red.; POTEKHIN, L.P., red.

[Transactions of the First All-Union Conference of Workers in the Algal Industry of the U.S.S.R.] Trudy Pervogo Vse-soiuznogo nauchno-tekhnicheskogo soveshchaniia po vodo-roslevoi promyshlennosti SSSR. Arkhangel'sk, Arkhangel'skoe knizhnoe izd-vo. Vol.1. 1962. 214 p.   (MIRA 17:12)

1. Vsesoyuznoye soveshchaniye rabotnikov vodoroslevoy pro-myshlennosti SSSR. 1st. 2. Chlen-korrespondent AN SSSR (for Danilov). 3. Vsesoyuznyy nauchnyy institut morskogo rybnogo khozyaystva i okeanografii (for Kireyeva). 4. Nachal'nik Upravleniya rybnoy promyshlennosti Arkhangel'skogo sovnar-khoza (for TSapko). 5. Saratovskiy gosudarstvennyy universiteta im. N.G.Chernyshevskogo (for Glikman).

BESPROZVANNYY, Nikolay Sergeyevich; GEMP, Sergey Dmitriyevich; SHVARTS, Tamara
    Vasil'yevna; IONINA, I.N., vedushchiy red.; YASHCHURZHINSKAYA, A.B.,
    tekhn.red.

[Deep faults in western Turkmenia and their role in the formation
of oil pools] Glubinnye razlomy Zapadnoi Turkmenii i ikh rol' v
formirovanii neftianykh zalezhei. Leningrad, Gostoptekhizdat,
1963. 104 p. (Leningrad. Vsesoiuznyi neftianoi nauchno-
issledovatel'skii geologorazvedochryi institut. Trudy, no.210).
                                                (MIRA 16:12)

BELYAYEV, S.S.; GEMPEL', A.R.

Improving the cutting disks for cutting joiner's pins. Suggested
by S.S.Beliaiev, A.R.Gempel'. Rats.i izobr.predl.v stroi.
no.13:115 '59.   (MIRA 13:6)

1. Derevoobdelochnyy zavod No.1 tresta Stroydetal' 82
Glavleningradstroya.
                    (Woodworking machinery)

GEMPEL', V. V.

Organization of Functions of Sectional Therapy

Sov. Zdravookhraneniye, 1949, No. 5, pp 35-37
LETOPIS 1949, item #33489